solarschools.net

Australia's leading school energy monitoring service

Online User Manual

solarschools.net
school energy monitoring

GRASSROOTS MARKETING ALLIANCE

BROWN PAPER BAG

solarschools.net a Grassroots Alliance and Brown Paper Bag initiative

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Welcome

Welcome! Your school is now connected to the solarschools.net Solar Collective.

solarschools.net was created to provide children with a fun, educational experience to stimulate interest in solar energy and energy efficiency. As a participant, there's a very good chance your school is already generating its own solar energy as you read this user manual!

Each participating school receives its own dedicated page on solarschools.net. Both solar generation data from your school's solar system, as well as the energy consumption data from your school, is displayed in easy-to-use graphs on your dedicated page. The data can also be downloaded for classroom analysis, and solarschools.net has supplied resources to support the use of the data in the curricula. You will find the resources under the Resources tab on the main navigation.

The solarschools.net comparison tool enables you to measure and record your school's solar data and compare it with solar schools from all over Australia.

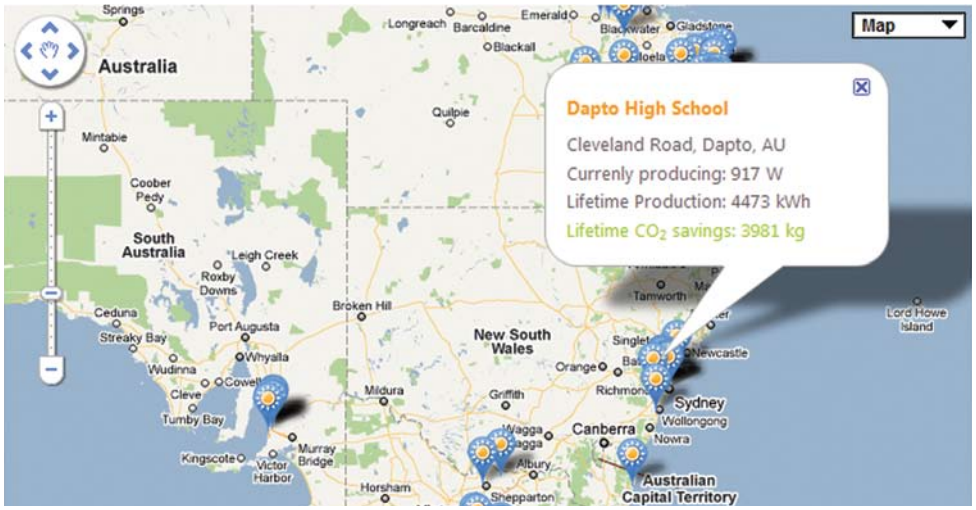
This user manual will guide you through each aspect of using the solarschools.net website. This user manual is available online at all times under the About tab so please think before you print.

Finding your School

There are two ways to access schools on the website.

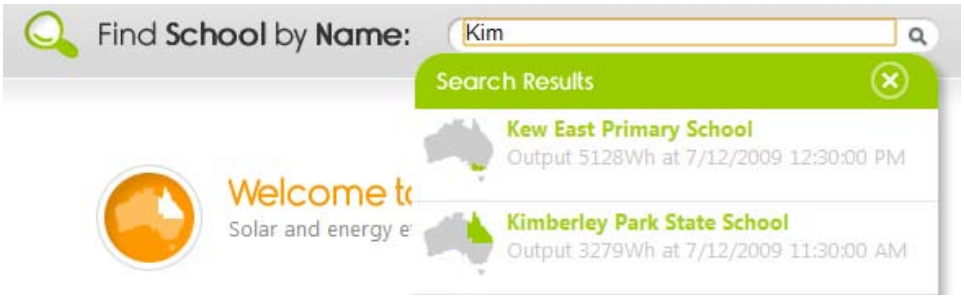
1. Find your School by Map

Click **Find School by Map** under the navigation bar. Select schools on the map by clicking on the **Sun Markers.** Use the Google Map controls to zoom and move around the map as required. Once a marker is selected, click the school's name to view the real time data at a glance. To go to the school's dedicated page click the name of the school inside the balloon.



2. Find your School by Name

Type your school's **Name** into the search panel underneath the navigation bar and select from the results that appear in the box directly under the search panel. Use the **Up** and **Down** arrows on the keyboard to navigate through the schools and click on your school's name to continue. Click the **ESC key** to close the window.



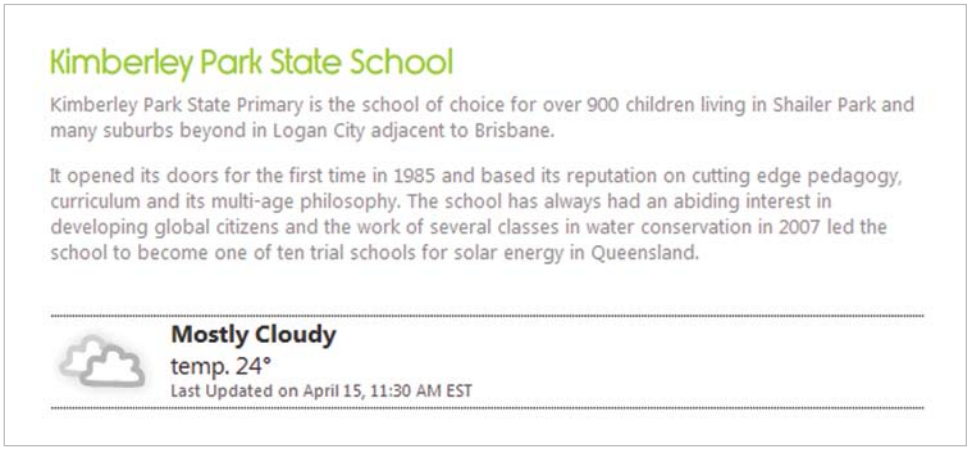
School Page

Each school page on solarschools.net contains the same functionality and format for ease of reference.

School Profile

At the top of the page is the school's name and a profile. A **School's Profile** can be edited by the school's **Administrator** (see page 17).

Under the school's profile appears current weather statistics; this information is provided by the weather bureau. Live temperature data (from available sites) can be found on the dashboard (see below).


Kimberley Park State School
Kimberley Park State Primary is the school of choice for over 900 children living in Shailer Park and many suburbs beyond in Logan City adjacent to Brisbane.
It opened its doors for the first time in 1985 and based its reputation on cutting edge pedagogy, curriculum and its multi-age philosophy. The school has always had an abiding interest in developing global citizens and the work of several classes in water conservation in 2007 led the school to become one of ten trial schools for solar energy in Queensland.
Mostly Cloudy
temp. 24°
Last Updated on April 15, 11:30 AM EST

Live System Output

Live generation direct from the solar system inverter is supplied via this dashboard.

The exact figure relating to each dial is displayed in the odometers under each dial.

❶ **Panel Voltage** is the electrical potential difference between the two wires that are attached to the solar panels on the roof. Its measurement unit is volts (V). Using a common plumbing analogy, voltage is similar to water pressure in a pipe.

❷ **Panel Current** is the amount of current the solar panels are supplying to the solar inverter. Current is defined as the amount of charge or electrons that flows past a given point, per unit of time. Electrical Current is measured in Ampere(s) or abbreviated to Amps (A). In plumbing terms Current can be thought of being the amount of flow in a pipe (i.e. litres per second).

❸ **Output Power** is the amount of power the solar inverter is producing at present. Power is measured in Watts (W) and can be calculated as: Power = Volts X Amps. This power being produced by the solar inverter reduces the amount of power that is consumed from the electricity power grid. In some cases when the base load of the school is less than the amount of power being produced by the solar inverter, power is supplied back into the electricity power grid. This can happen during weekends and holiday periods.

❹ **Temp.** displays the schools temperature from the temperature sensor installed on site. The measurement is degrees Celsius (deg C).

Solar Energy Generation Graph

Solar Energy Generation graphs always appear in green. The graphs follow the same format as the Home page graph but display only data for the selected school.

Click the tabs at the top to display graph data from today, last 7 days, last 30 days or last 12 months. To download any of the data from the graphs being viewed just click the download data for this graph button.

All graphs show the energy produced represented in kWh (y-axis) mapped against time (x-axis). The total energy generation and CO_2 savings for the period are displayed at the top of each tab.

Today – shows the energy generation today in half hourly intervals.
Last 7 days – shows the daily energy generation for the previous 7 days.
Last 30 days – shows the daily energy generation for the previous 30 days.
Last 12 months – shows the monthly energy generation for the previous 12 months.

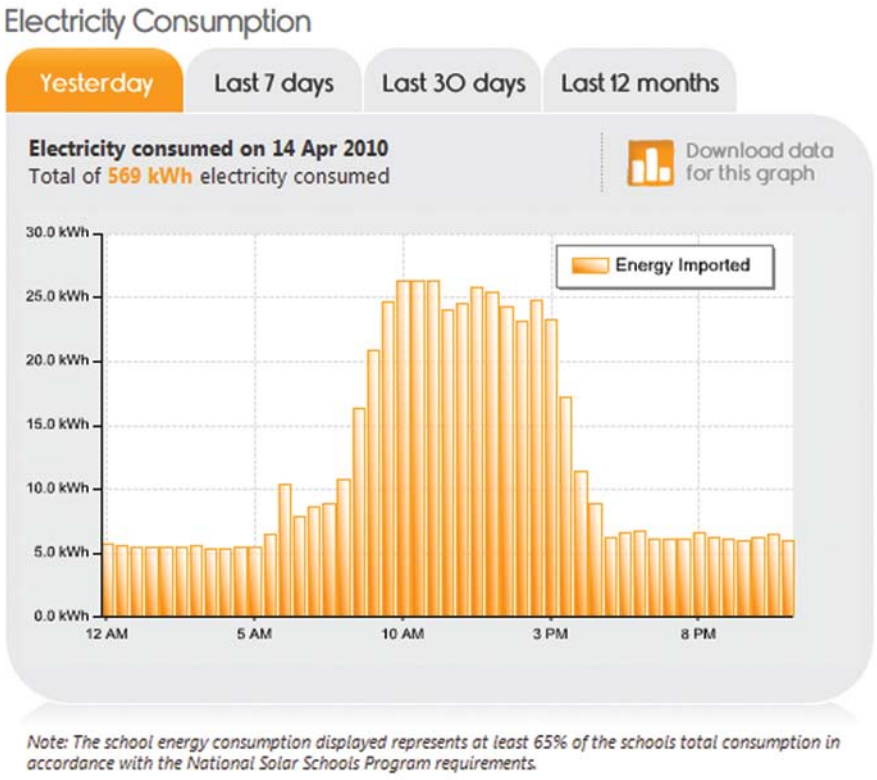
Under the Solar Energy Generation graph are aggregated Energy Generation and CO_2 saving totals for the entire program. This means if you entered the website page via the eq.solarschools.net portal the totals will only include Queensland State Schools.

Electricity Consumption Graph

Electricity Consumption information is located under the Solar Energy Generation graph and appears in orange. It follows the same format as the Solar Energy Generation graph but shows the energy drawn from the grid by the selected school.

Once again information is graphed as kWh (y-axis) utilised against time (x-axis).

Yesterday – shows the electricity consumption for the previous day in half hourly intervals.
Last 7 days – shows the daily electricity consumption for the previous 7 days.
Last 30 days – shows the daily electricity consumption for the previous 30 days.
Last 12 months – shows the monthly electricity consumption for the previous 12 months.



Note: The school energy consumption displayed represents at least 65% of the schools total consumption in accordance with the National Solar Schools Program requirements.

Please note that the information supplied may not reflect the entire school's consumption but will at a minimum provide 65% of total use.

At a Glance Items

The left hand side of a school's page contains summary information about the school site.

The orange box displays the school's **Lifetime Generation** total that has been recorded by solarschools.net since the school was connected to the website service.

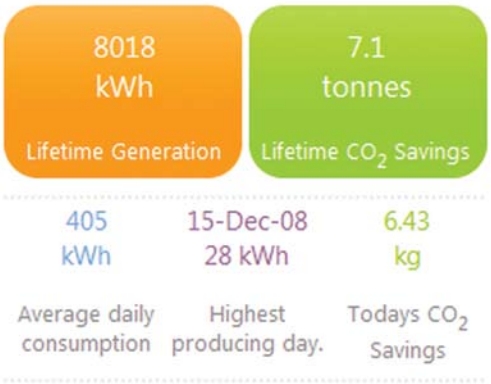
The green box displays **CO_2 Savings** since the system was connected. The CO_2 Savings is calculated by multiplying the Total Energy Generated by each State/Country's CO_2 co-efficient for the period. The CO_2 co-efficient is published periodically by the relevant government authorities.

Below the boxes are three measures of data:

Average daily consumption – shows the average daily consumption for the site – that is the amount of energy drawn from the grid, averaged daily since consumption data started to be recorded by solarschools.net.

Highest producing day – provides the information about the highest producing day recorded.

Today's CO_2 savings – relates to the amount of CO_2 saved as a result of today's energy generation.

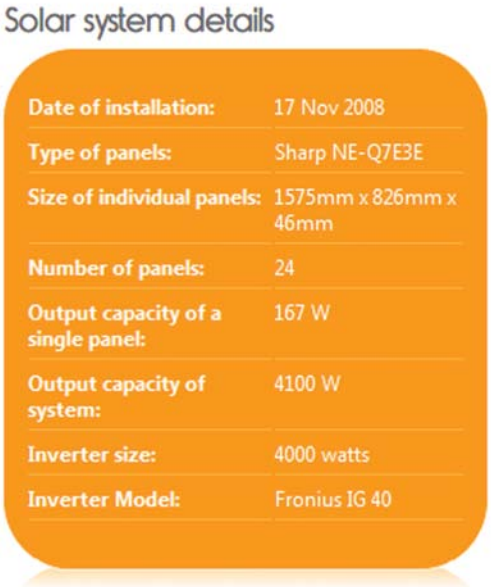


Gallery

The gallery contains images relating to the school. They can be viewed by clicking on an image. All images are maintained by the school's administrator in the **School Gallery** administration area (see page 16).

Solar System Details

Provides details of the solar PV system installed at the school. It is highly useful to review this information before comparing schools.


Solar system details
Date of installation: 17 Nov 2008
Type of panels: Sharp NE-Q7E3E
Size of individual panels: 1575mm x 826mm x 46mm
Number of panels: 24
Output capacity of a single panel: 167 W
Output capacity of system: 4100 W
Inverter size: 4000 watts
Inverter Model: Fronius IG 40

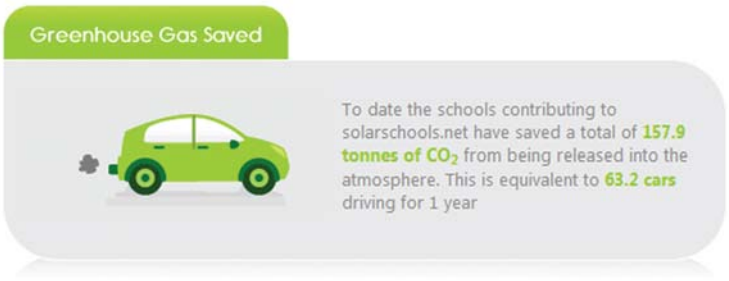
Webpage Functionality

The solarschools.net website has a primary navigation bar which appears as coloured **Tabs** at the top of the page. Let's explore each of the tabs and their content.

Home

Contains aggregated solar generation information for the entire solarschools.net program.

Greenhouse Gas Saved – this is the total greenhouse gas saved as a result of generation from a renewable source and not from coal fired power. Green Energy sources reduce the amount of Carbon Dioxide (CO_2) released into the atmosphere. It is measured as an equivalent weight of CO_2 that has been saved or prevented from being released into the atmosphere. The solarschools.net website has represented this saving as an equivalent number of vehicles being driven for one year. Information on Greenhouse Gas is supplied by the Federal Government for each state. The relevant factor is applied to each school depending on the school's location. For more information, visit **www.climatechange.gov.au**


Greenhouse Gas Saved
To date the schools contributing to solarschools.net have saved a total of 157.9 tonnes of CO2 from being released into the atmosphere. This is equivalent to 63.2 cars driving for 1 year

For all Queensland State Schools please use the **www.eq.solarschools.net** portal as this supplies aggregated information for all QLD State Schools. You can still access schools from other states via this portal. For all other states the **www.solarschools.net** home page shows the aggregated generation for all sites connected including all Queensland schools.

About

Contains information about Brown Paper Bag and Grassroots Marketing Alliance, the providers of your web based service. Also in this area you will find **Frequently Asked Questions** (**FAQ's**) and a **How Does It Work?** interactive diagram showing how the solarschools.net program works. You will also find the **Online User Manual** under the **About** tab.

Compare

Using the solarschools.net comparison tool students can analyse the effects of different weather conditions on different days in different cities. The data collected by the site can be used to compare solar schools side by side, over days, weeks, months and years.

Click on the **Compare** tab on the main Navigation.

Step 1: Select the Schools to Compare

Using the **Text Field** enter a school name and click on the displayed result to add that school to the comparison. Repeat this process to add up to 5 schools to the comparison.

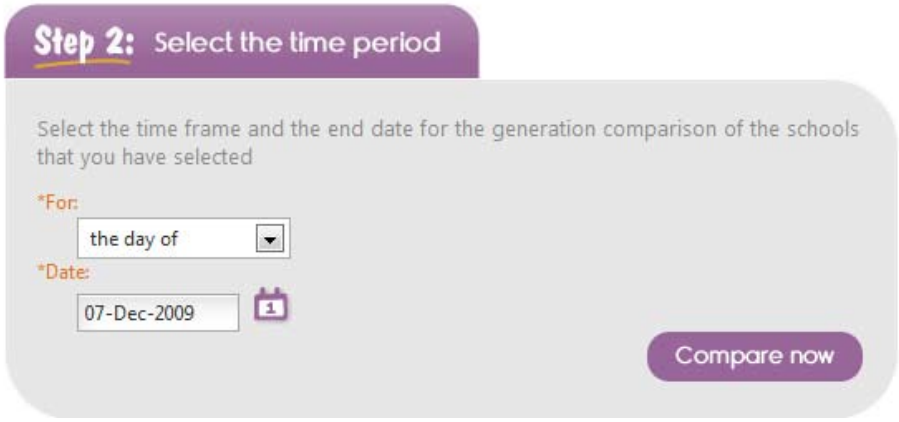
To deselect a school at any stage click the button.

Step 1: Select the schools to compare
Select up to five (5) schools to compare the solar system generation output by...
Selected Schools
1. Kimberley Park State School (QLD)
2. St Andrew's School, Walkerville (SA)

Step 2: Select the Time Period

Select a time frame and appropriate end date for the comparison using the **For** and **Date** controls.

Click **Compare Now** to open the comparison results.

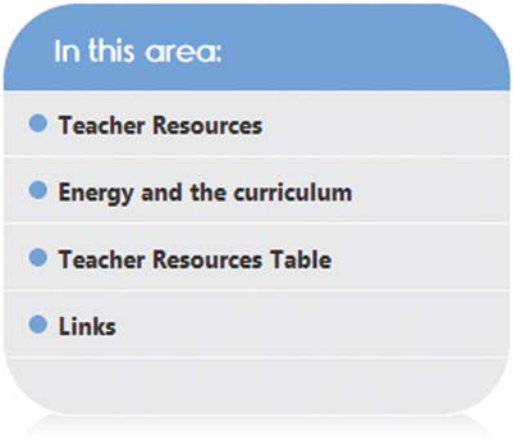

Step 2: Select the time period
Select the time frame and the end date for the generation comparison of the schools that you have selected
*For:
the day of
*Date:
07-Dec-2009
Compare now

Resources

Contains detailed teaching activities to support the use of the energy data in the classroom.

The **Energy and the Curriculum** sub-section explores the application of energy topics in different areas of the syllabus and the **Teachers Resource Table** provides access to all of the resources via a **Primary** or **Secondary** tab.

The **Links** sub-section contains links to other useful resources.



Solar Energy

Contains relevant facts and supporting information regarding solar energy, renewable energy, fossil fuels, electricity and how we can make a difference to our environment. Links are provided to the related activities for each topic area.

Green Tip

At the bottom of all pages you will find handy tips and hints for saving energy.

GREEN TIP
Upgrading to the best of the latest MFD (multi-Function Device) and getting rid of the separate fax, scanner, printer and copier saves over 20-40 kg of CO2 per week and uses less space.

Logon to solarschools.net

Logon

Click **Logon** in the top navigation panel.

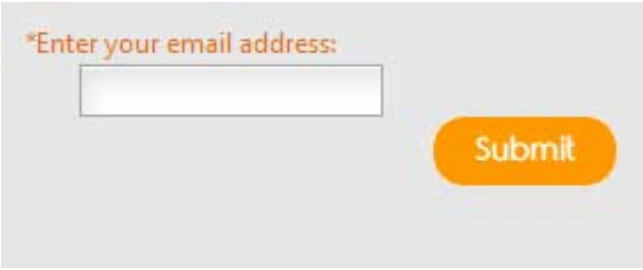
Type in your **Username** and **Password** then click **Submit**.

A welcome to solarschools.net email has been sent to you, in it is a **Username** and **Password** for **Administrator** access. A reminder that the password sent to you is for the **Administrator's** use only. It will allow you to set up other users, update your school's profile and modify settings, so it is important that this username and password be kept in a safe place and not be issued to the wider school for use.

You are required to logon and **Update Your Personal Information** (see page 15), as a means of commencing the use of your service. We recommend that you also logon and set up other **School Users** (see page 19) so that they have access to the extended data download area and reporting functionality of solarschools.net.

Password Recovery

If you have lost or forgotten your password, you can retrieve it by clicking **Forgot your password?** Enter the email address associated with your **solarschools.net** account and your password will be automatically sent to you. If you continue to have difficulty logging on please contact solarschools.net support on support@solarschools.net



My Account

Once successfully logged in, a tab named **My Account** will appear on the right of the main navigation tabs. Click this tab to access and edit your school's account. Use the sub-navigation panel on the left of the pages to access and edit different areas of your account, as detailed below.

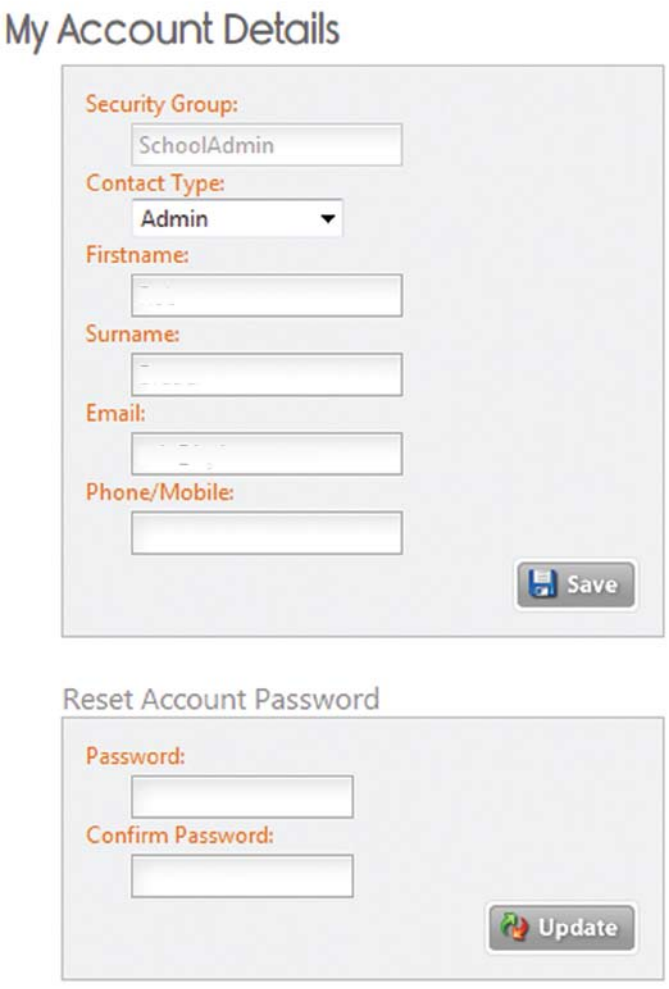
Updating Your Personal Details

Logon using the **Username** and **Password** sent to you in the welcome email.

From the sub-navigation panel on the left choose **My Account**.

Enter your correct first name and last name and click **Save**.

If you would like to choose your own password you can do this here. Passwords must be a minimum of 6 characters and include at least one capital and one number. Under **Reset Account Password** enter your own password into both the **Password** and **Confirm Password** fields and then click **Update**. The system will advise you if the password change has been successful.

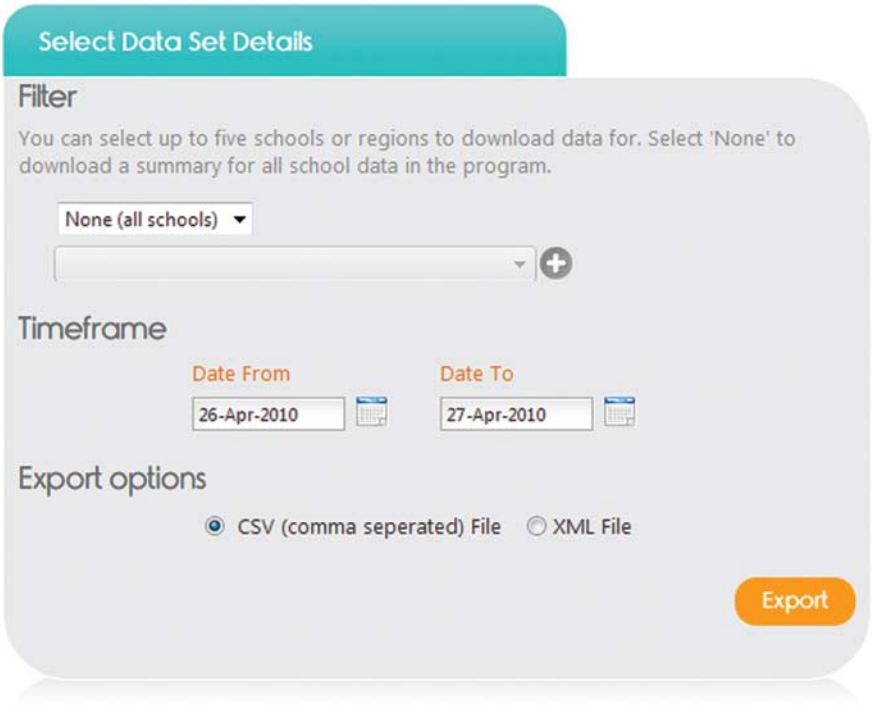


Generate Dataset

Teachers can generate and download datasets for use with students.

Choose the desired timeframe and export type. As a rule of thumb any chosen one day interval will supply half hourly data. Data sets of 1-62 days will provide daily data totals and a chosen period between 63 days – 18 months will be supplied in monthly totals.

Choose XML or CSV for the download format (CSV is an Excel compatible file).



School Gallery

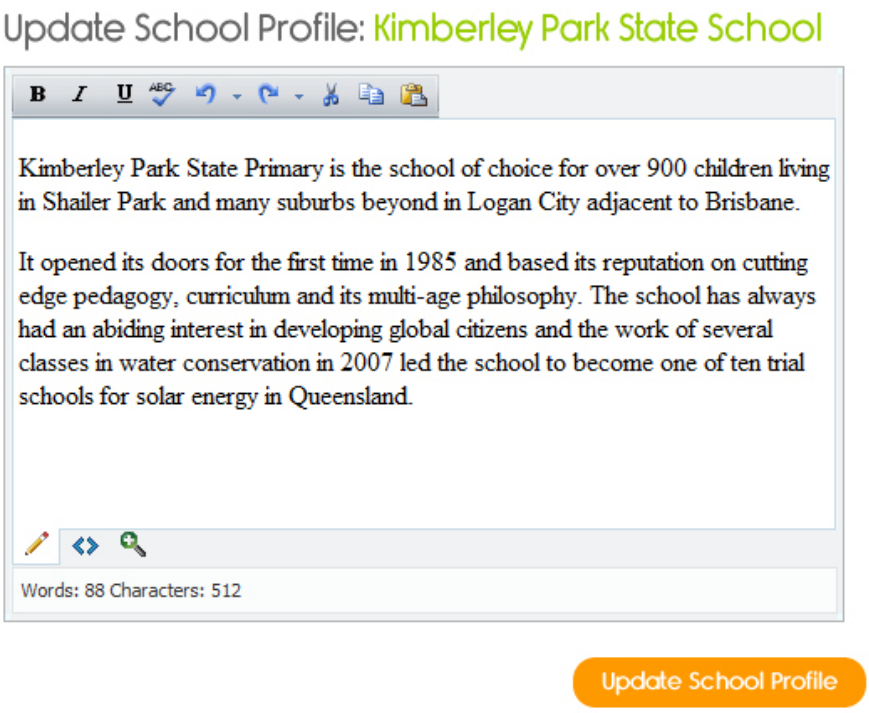
Edit the images displayed within your school's profile using the **Check Boxes** and **Upload/ Delete Image** buttons.

Please ensure the images are relevant to the program, such as images of your actual PV installation and of students undertaking activities in energy efficiency. It is important that only authorised responsible persons have access to this functionality.

School Profile

Edit your school's profile page content using the simple text editor and click **Update School Profile** to save any changes. If copying and pasting text from another source, first paste the text into **Notepad** and then paste it into the text editor. **MS Word** contains coding that may affect the appearance of the text on solarschools.net, so please ensure you either **Free Type** the text or use **Notepad** to copy and paste the text into the text editor.

It is very important that only responsible persons have access to this functionality as it allows the content on your page to be changed. We have preloaded some content from your existing website, however we ask you to update this area with information about sustainability programs you may be undertaking. It is a great place to share the things your school is doing to help the environment.


Update School Profile: Kimberley Park State School
Kimberley Park State Primary is the school of choice for over 900 children living in Shailer Park and many suburbs beyond in Logan City adjacent to Brisbane.
It opened its doors for the first time in 1985 and based its reputation on cutting edge pedagogy, curriculum and its multi-age philosophy. The school has always had an abiding interest in developing global citizens and the work of several classes in water conservation in 2007 led the school to become one of ten trial schools for solar energy in Queensland.
Words: 88 Characters: 512
Update School Profile

System Details

Authorised users can change system information within the **System Details** page.
Click **Add New System Property** and follow the instructions to add further system details.
Delete an entry by clicking the ⊗ button.

solarschools.net have preloaded your system details so you should not need to do anything further.

School Users

Add a user

It is vital that you set up teachers using this function.

Click the ⊕ button.

The system will ask for the person's name and position, **Save** this info and the site will generate a unique username and password for their use. Teachers can then use this username and password to utilise the generate dataset and reporting functions.

Please remember that you don't need to be logged in to access datasets – they are also available on the public school page. On the school's page, click the download data button on the graph to access datasets.

My Account

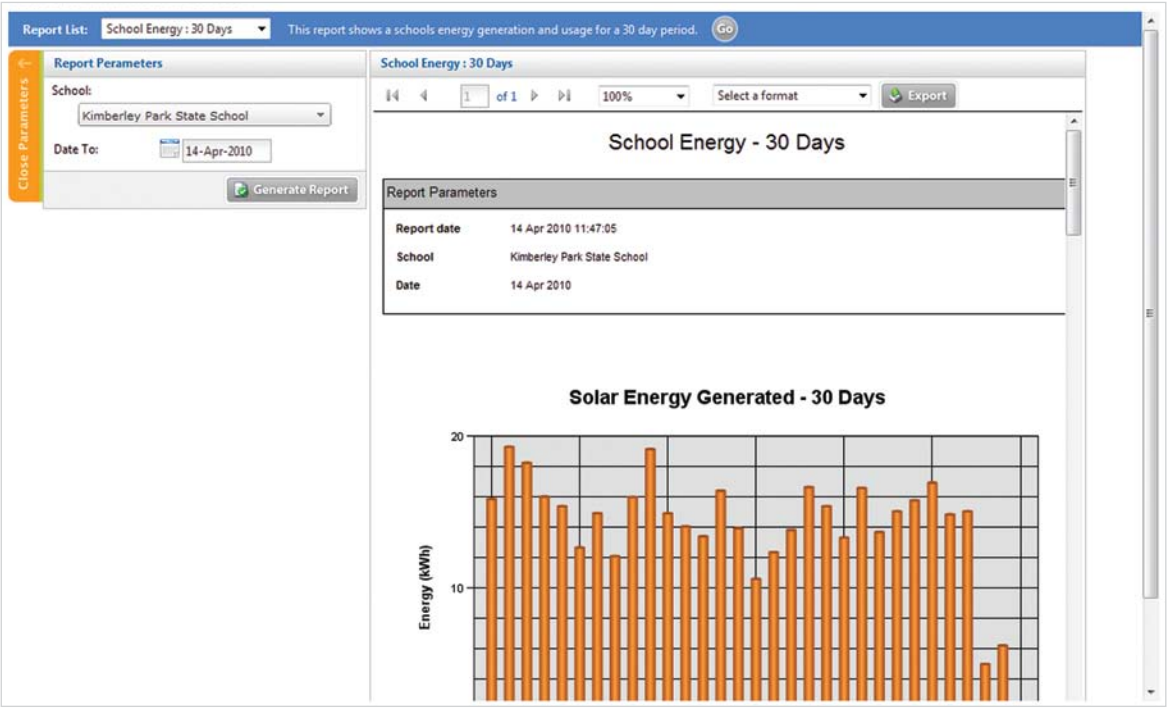
My Account allows you to **Update Your Personal Information** and **Password** (see page 15).

Reporting

Select from a variety of Generation and Consumption reports. Select a desired report from the **Report List** drop down list at the top of page.

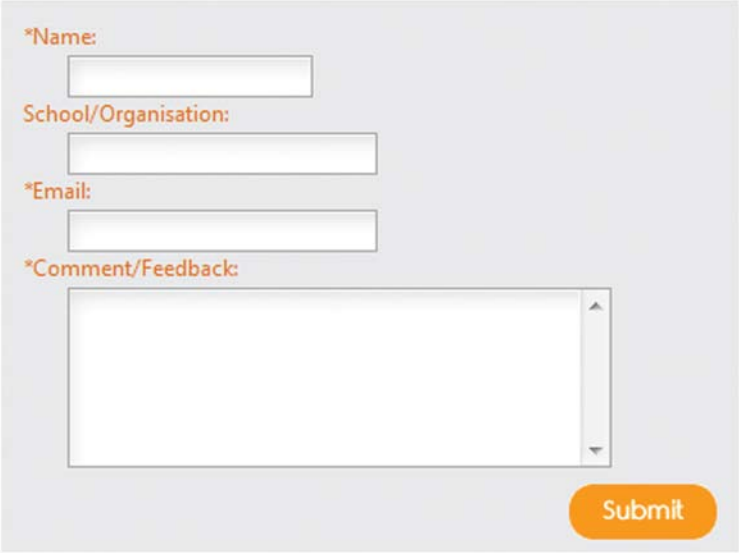
Choose the date range and click **Go**.

Use the arrows to navigate pages within the report. To **Save** a copy of the Report in PDF or excel format make a selection using the **Select a format** drop down box and click **Export**. Save the document to an appropriate location on your computer or portable storage device.



Contact Us

Please utilise the web based form to contact us with any queries regarding the use of the web site. We welcome your feedback regarding our service.



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p 1300 914 120 **e** support@solarschools.net